Astrophysics
The basic idea

Dandeswar Deka
Assistant Professor
Department of Physics
B. H. College, Howly.
E-mail: d.deka2010@rediffmail.com

Introduction :

1. **Astrophysics** is a science that employs the methods and principles of physics and chemistry in the study of astronomical objects and phenomena.
2. As one of the founders of the discipline, **James Keeler** said, Astrophysics "seeks to ascertain the nature of the heavenly bodies, rather than their positions or motions in space, i.e., *what* they are rather than *where* they are."
3. The subjects studied are the sun, other stars, galaxies, extrasolar planets, the interstellar medium and the cosmic microwave background.
4. Emissions from these objects are examined across all parts of the electromagnetic spectrum and the properties examined include lumunisity, density, temperature, and chemical composition.
5. Since astrophysics is a very broad subject, *astrophysicists* apply concepts and methods from many disciplines of physics, including classical mechanics, electromagnetism, statistical mechanics, thermodynamics, quantum mechanics, relativity, nuclear and particle physics, and atomic and molecular physics.

Areas of Study :

1. In practice, modern astronomical research often involves a substantial amount of work in the realms of theoretical and observational physics.
2. Some areas of study for astrophysicists include their attempts to determine the properties of dark matter, dark energy, black holes and other celestial bodies, and also the origin and ultimate fate of the universe.
3. Topics also studied by theoretical astrophysicists include solar system, its formation and evolution, galaxy formation and evolution large-scale structure of matter in the universe, origin of cosmic rays, general relativity, special theory of relativity, quantum and physical cosmology, including string cosmology and astro-particle physics.

Thank You